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May 14, 2001

VIA HAND DELIVERY

Magalie Roman Salas, Esq.
Office of the Secretary
Federal Communications Commission
445 Twelfth Street, S.W.
Room TW-A325
Washington, D.C. 20554

Re: GN Docket No. 01-74
Comments of HIC Broadcast, Inc.

Dear Ms. Salas:

On behalf of HIC Broadcast, Inc. ("HIC"), we submit herewith an original and four copies of HIC's comments in response to the FCC's *Notice of Proposed Rule Making In the Matter of Reallocation and Service Rules for the 698-746 MHz Spectrum Band (Television Channels 52-59)* in GN Docket No. 01-74. Also enclosed is a diskette copy of HIC's comments.

Please contact the undersigned if you have any questions about this submission.

Respectfully submitted,

Elizabeth A. McGeary

Enclosures

cc (w/encl.): International Transcription Service, Inc.
1231 20th Street, N.W.
Washington, D.C. 20036
cc (w/o disk): Ms. Lisa Gaisford (FCC)
Mr. G. William Stafford (FCC)

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
Reallocation and Service Rules for the 698-746 MHz Spectrum Band (Television Channels 52-59)	)	GN Docket No. 01-74

To: The Commission

COMMENTS OF HIC BROADCAST, INC.

HIC Broadcast, Inc. ("HIC"), by its attorneys, hereby respectfully submits these comments in response to the *Notice of Proposed Rule Making* ("*Notice*") in the above-referenced proceeding[1] concerning the reallocation of the 698-746 MHz spectrum band (the "Lower 700 MHz Band") containing Television Channels 52-59 from incumbent broadcasters to new licensees. HIC is the licensee of KFWD(TV), Fort Worth, Texas ("KFWD"), the only Hispanic-owned and one of only two Spanish language full power television stations in the Dallas/Ft. Worth market. KFWD is licensed to operate on NTSC Channel 52, which is located within the Lower 700 MHz Band, and on DTV Channel 51, which is immediately adjacent to the Lower 700 MHz Band. Accordingly, HIC has a significant interest in this proceeding.

In the *Notice*, the Commission seeks comment regarding a number of issues, including allocation of the Lower 700 MHz Band, transition concerns, interference protection, service rules, and competitive bidding procedures. By these comments, HIC specifically addresses the

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[1] Reallocation and Service Rules for the 698-746 MHz Spectrum Band (Television Channels 52-59), *Notice of Proposed Rule Making*, GN Docket No. 01-74, FCC 01-91 (rel. Mar. 28, 2001) ("*Notice*").

Commission's inquiries regarding interference protection for analog and DTV stations located in and adjacent to the Lower 700 MHz Band.[2]

HIC emphatically supports the Commission's policy that new licensees on the Lower 700 MHz Band be prohibited from causing *any* interference to stations located within or immediately adjacent to the Lower 700 MHz Band. As the Commission has stated, "Broadcasters authorized under the current rules are *entitled* to protection or accommodation from new licensees."[3] At this early stage of the reallocation proceeding, the Commission has not yet specified the new services that will be permitted on the Lower 700 MHz Band and so it is difficult to specify an appropriate interference protocol that would prevent all interference from new services on the Lower 700 MHz Band. Accordingly, the Commission should establish a blanket requirement that all new licensees operating in the Lower 700 MHz Band demonstrate that they will not cause *any* interference to broadcast services located in and adjacent to the Lower 700 MHz Band prior to commencing operations. Only through adoption of such a blanket interference prohibition will the Commission ensure against any loss of television services to the public.

If the Commission determines, however, that it should adopt a specific interference protocol at this time, the Commission should use the same protection requirement of 40 dB desired-to-undesired (D/U) for Channel 52 as it adopted for users of Channels 60-69 (the "Upper 700 MHz Band"). For protection of adjacent-channel DTV operations on Channel 51, HIC recommends that the Commission create a guard band within 619 kHz of the lower edge of the Lower 700 MHz Band. In addition, HIC recommends that the Commission adopt an interference protection protocol for the protection of channels located within and adjacent to the Lower 700

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2 *See Notice* at ¶¶ 29-33.

3 *Id.* at ¶ 15 (emphasis added).

MHz Band similar to that used by two-way providers in the 2.5 GHz band that serves to protect existing Instructional Television Fixed Service ("ITFS") one-way licensees.[4]

I. IF NEW LICENSEES BEGIN OPERATIONS ON THE LOWER 700 MHZ BAND PRIOR TO THE END OF THE DTV TRANSITION, THE COMMISSION ABSOLUTELY MUST PREVENT LOSS OF TELEVISION SERVICE ON CHANNELS 52-59.

In conjunction with the DTV transition, the Commission has designated Channels 2-51 as the "core" television spectrum and will reclaim Channels 52-69 for new services. Although the Commission anticipates that it will reallocate the Lower 700 MHz Band before September 30, 2002, it will not require broadcasters transmitting digital signals in the Lower 700 MHz Band to relocate into the "core" spectrum until the end of the DTV transition,[5] at which time all broadcasters are required to cease transmitting in analog. The Commission anticipates, however, that it may permit concurrent use of the Lower 700 MHz Band by new entrants prior to the end of the DTV transition.[6] Thus, new entrants and incumbent broadcasters could share use of the Lower 700 MHz Band for a number of years.

Such concurrent use of the band raises the significant risk of interference between new services and incumbent broadcast operations. As an initial matter, if the Commission permits concurrent use,[7] its policy of requiring new licensees to provide absolute protection to analog

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4 Exhibit A (Technical Exhibit of Hammett & Edison, Inc.) ("Technical Exhibit").

5 *Notice* at ¶ 2.

6 *Id.*

7 At this early stage in the proceeding, the Commission has not yet specified the technologies that would be permitted to operate in the Lower 700 MHz Band, and indeed, it would be premature for the Commission to do so. To make such a determination at this point would hamper the market forces motivating new licensees to provide innovative new services to the public. Accordingly, HIC does not take any position at this time whether concurrent use of the spectrum should be permitted. HIC reserves the right to oppose concurrent use in the future.

and DTV television operations in the Lower 700 MHz Band must govern all new entrant operations.[8] Specifically, to ensure that there is no loss of service to viewers of incumbent broadcast operations, the Commission must adopt an interference protocol that reflects this policy of absolute interference protection. With no specified technologies or band use parameters for the new entrants, there is insufficient information at this time to develop effective interference protocols. While a variety of methods might be used to protect existing NTSC and DTV operations – such as physical spacing, contours, terrain blockage, and coordination – all of these require some knowledge of the transmission technology or service to be used by the new entrant. Thus, the Commission also should adopt a rule that places the burden on the new entrant to demonstrate that no interference will occur to existing broadcast users, particularly given that the Commission has mandated that new licensees are obligated to protect incumbent broadcasters on the 700 MHz Band.[9] If a new entrant's proposed operations indicate *any* interference to an

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[8] *See, e.g., id.* ("New licensees may operate in the band prior to the end of the transition to the extent that they do not cause interference to existing analog and digital broadcasters."); *Notice* at ¶ 15 ("Broadcasters authorized under the current rules are entitled to protection or accommodation from new licensees."); *Notice* at ¶ 29 ("In the *DTV Proceeding*, we stated that all existing analog TV and new DTV stations in the 698-746 MHz band would be fully protected during the DTV transition period. Thus, it will be necessary for licensees in the reallocated spectrum to protect both analog TV and DTV stations in the 698-746 MHz band from interference."); Interim Report Spectrum Study of the 2500-2690 MHz Band, The Potential for Accommodating Third Generation Mobile Systems, 3G Interim Report, at Attachment 2 to Appendix 1.1, Nov. 15, 2000 ("The rules for any new services on 698-746 MHz frequencies provide for the protection of those stations during the DTV transition."); Principles for Reallocation of Spectrum to Encourage the Development of Telecommunications Technologies for the new Millennium, *Policy Statement*, 14 FCC Rcd 19868 (1999) ("The service rules for any new services on 698-746 MHz frequencies will therefore have to provide for the protection of those new stations during the DTV transition.").

[9] *Notice* at ¶ 29 ("In the *DTV Proceeding*, we stated that all existing analog TV and new DTV stations in the 698-746 MHz band would be fully protected during the DTV transition period. Thus, it will be necessary for licensees in the reallocated spectrum to protect both analog TV and DTV stations in the 698-746 MHz band from interference.").

incumbent broadcaster, the proposal would be denied.

HIC assumes that the operations in the Lower 700 MHz Band will be two-way in nature, and accordingly, there is a significant risk of highly localized interference to television reception from nearby, relatively low-power, portable and mobile transmitters. Thus, if the Commission deems it necessary to establish specific interference standards at this time, the Commission could afford some protection to television operations by developing an interference protection protocol similar to OET-69.[10] HIC therefore supports the Commission's proposal to apply the same protection requirement of 40 dB D/U signal ratio as was adopted in the Upper 700 MHz Band proceeding.[11] HIC also recommends that if the Commission must adopt interference protection standards at this time, it employ those similar to that used for two-way providers in the 2.5 GHz (Part 21) band that protect existing ITFS one-way licensees.[12]

These protection recommendations are based only on the information available at this time and thus are preliminary. If these or any other protection requirements adopted by the Commission become inadequate in light of the specific transmission systems to be used on the Lower 700 MHz Band, it is imperative that the Commission immediately revisit these issues in order to adhere to its policy of absolute protection of broadcast operations located in and immediately adjacent to the Lower 700 MHz Band from services provided by new licensees.

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10 Exhibit A (Technical Exhibit).

11 *Notice* at ¶ 30; *see* Development of Operational, Technical and Spectrum Requirements for Meeting Federal, State, and Local Public Safety Agency Communications Requirements Through the Year 2010, *First Report and Order and Third Notice of Proposed Rulemaking*, 14 FCC Rcd 152, ¶ 152 (1998).

12 Exhibit A (Technical Exhibit).

II. THE COMMISSION MUST ADOPT A GUARD BAND AND AN INTERFERENCE PROTOCOL THAT ENSURE TOTAL PROTECTION OF DTV OPERATIONS ON CORE CHANNEL 51.

In the *Notice*, the Commission seeks comment whether it will be necessary to restrict operations in the Lower 700 MHz Band to protect broadcast operations on Channel 51 from adjacent channel interference.[13] HIC strenuously urges the Commission to adopt such restrictions to protect the permanent, in-core broadcast stations like KFWD on Channel 51 that are adjacent to the Lower 700 MHz Band. The Commission should prohibit any interference to Channel 51 television operations and require new licensees to demonstrate that they will not cause interference to broadcast operations on Channel 51 prior to commencing service. Such a requirement would be an appropriate application of the Commission's stated policy that new licensees are obligated to protect broadcasters authorized under the current rules.[14] Moreover, in light of the specialized knowledge of the transmission service that would be required to ensure effective protection of broadcast operations, the new entrant would be in the best position to evaluate the likelihood of interference to broadcast operations. Thus, the Commission would authorize the new entrant to commence services only after the entrant has provided an analysis utilizing the relevant interference protocols that demonstrates that no interference will occur to authorized television broadcast operations.

If the Commission determines that it is necessary to establish specific interference protection criteria at this time, however, the Commission should establish a guard band within 619 kHz of the lower edge of the lower 700 MHz Band such that no new services would be

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[13] *Notice* at ¶ 16.

[14] *Id.* at ¶ 15 ("Broadcasters authorized under the current rules are entitled to protection or accommodation from new licensees.").

permitted below 698.619 MHz. There is a significant risk of highly localized interference to television reception from nearby, relatively low-power, portable and mobile transmitters from two-way operations in the Lower 700 MHz Band and use of a guard band would ensure against such interference.[15] As an initial estimate to limit the interference potential of new services in the Lower 700 MHz Band to adjacent-channel DTV operations on Channel 51, one may assume that the new services in that band will have an interference potential similar to ATSC DTV operations.[16] As explained in the Technical Exhibit, the Commission should require that in-band emissions below that frequency "roll off" (the radiated energy must reduce as the frequency approaches the band edge) in the same way as do Advanced Television Systems Committee ("ATSC") transmissions to help ensure that the interference protection ratios of DTV interference analyses would provide adequate protection to broadcast operations on Channel 51.[17] The Commission should mandate that out-of-band emissions be limited to the same levels as ATSC transmissions. HIC also recommends that the Commission adopt an interference protection protocol similar to that used by two-way providers in the 2.5 GHz band that serves to protect existing ITFS one-way licensees.

Regardless of the interference protocol adopted, the Commission must ensure that new services on the 700 MHz Band do not cause any interference to broadcast operations on adjacent Channel 51. In this manner, the Commission would ensure total protection of broadcast operations on Channel 51 and prevention of any loss of broadcast service to the public.

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15 Exhibit A (Technical Exhibit).

16 *Id.*

17 *Id.*

CONCLUSION

In light of the foregoing, HIC urges the Commission to remain steadfast in its policy that existing broadcasters located in and adjacent to the Lower 700 MHz Band are entitled to absolute protection from new services in the Lower 700 MHz Band. Any interference protocol that the Commission adopts must reflect this policy. Given the detailed knowledge that is required regarding the interference potential of any new services in order to develop an effective interference protocol, the Commission appropriately should prohibit all new entrants from causing interference to incumbent broadcast operations in the Lower 700 MHz Band and adjacent operations on Channel 51 and place the burden on new entrants to demonstrate that their operations would not cause *any* such interference.

Respectfully submitted,

HIC BROADCAST, INC.

By: _____
Elizabeth A. McGeary
Nam E. Kim

Its Attorneys

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Dated: May 14, 2001

Exhibit A

Technical Exhibit
by Hammett and Edison, Inc.

TV Station KFWD • Channels D51/N52 • Fort Worth, Texas
Engineering Statement in Support of Comments to GN Docket 01-74

Statement of Hammett & Edison, Inc., Consulting Engineers

The firm of Hammett & Edison, Inc., Consulting Engineers, has been retained by HIC Broadcast, Inc., licensee of TV Station KFWD, Channels D51/N52, Fort Worth, Texas, to prepare this engineering exhibit in support of comments to GN Docket 01-74, which proposes to reallocate TV Channels 52–59, the 698–746 MHz "lower 700 MHz band," to fixed and mobile services on a co-primary basis with television broadcasting.

Proposed Fixed and Mobile Operations are an Interference Threat to Existing Users

The proposed fixed and mobile operations at effective radiated power ("ERP") levels up to 1 kilowatt have the potential for causing severe interference to existing NTSC and ATSC television broadcast operations both in the 698–746 MHz band (TV Channels 52–59) and on TV Channel 51, which is immediately adjacent in frequency to this "lower 700 MHz band." Because the operations in the lower 700 MHz band are likely to be two-way, there is a potential for localized interference to TV reception from nearby, relatively low-power, portable and mobile transmitters operating in residential areas. This is a situation strikingly similar to that on 2.5 GHz ITFS channels, where new "digital, cellularized, two-way" operations authorized pursuant to MM Docket 97-217 must protect existing "downstream" ITFS receive sites.

Existing Broadcast Stations Must Be Protected From Interference

Long standing Commission policy has been that new users must correct any problems they create to existing users. In order to minimize the possibility of interference, the Commission may wish to adopt an interference protection protocol similar to that used in the 2.5 GHz ITFS band. Specifically, an interference prediction methodology could be developed that protects fully existing television broadcast facilities (both NTSC and DTV) from interfering co- and adjacent-channel operations by fixed and mobile users in the lower 700 MHz band. Proposals for operation in that band should be required to include an analysis, demonstrating that no interference is likely to occur to existing television broadcast operations. The analysis should include, in addition to fixed stations, the universe of portable and mobile users potentially operating within the protected service areas of affected television stations.

If full interference protection of existing television broadcast stations within their protected service areas cannot be demonstrated, the applicant should have the option of negotiating with the broadcaster to accept some interference (although a broadcaster should be under no obligation to agree to accept such interference) or changing the applicant's own system design.

Interference Prediction Protocol

At this time, we believe that there is insufficient information to develop a specific interference prediction protocol. While there are a variety of methods that might be used to protect existing NTSC and DTV operations, including physical spacing, contours, terrain blockage, and frequency coordination, all of these require knowledge of the transmission technology to be used by the lower 700 MHz band operator. Since the FCC has not proposed any specific technologies to be used in the lower 700 MHz band, assumptions must be made about the interference potential of the new services. Because of the wide variety of possible technologies that might be used, it is recommended that, in all cases, the burden rest with the lower 700 MHz band operator to demonstrate that no interference will occur to existing broadcast users.

Interference to Existing Operations on TV Channel 51

As an initial estimate to limit the interference potential of new services in the lower 700 MHz band to adjacent-channel operations, in particular ATSC DTV operations, we might assume that transmissions will have an interference potential similar to ATSC DTV signals, that is, that the interference potential is limited almost completely to the 6 MHz spectrum immediately above Channel 51 (*i.e.*, 698–704 MHz). In order for that assumption to be valid, however, the FCC must first mandate that transmissions in the lower 700 MHz band have an RF spectrum that "rolls off" in the same way as does the 8-VSB transmission system specified in the ATSC DTV standard. If the Commission believes that it is necessary to establish an interference protection criterion at this time, we would suggest that new fixed and mobile services not be permitted below 698.619 MHz (*i.e.*, establish a "guard band" within 619 kHz of the lower edge of the lower 700 MHz band). This 619 kHz guard band above the upper edge of TV Channel 51 comes from the transition region where in-band ATSC signals must roll off from full average power to comply with the required out-of-band emission limitations contained in the FCC Rules. The half-power point is found at about 309.5 kHz above the lower channel edge. Additionally, we would recommend that out-of-band emissions be limited to the same levels as ATSC transmissions (see 47 CFR Section 73.622(h)(1)). These emission limitations would ensure that the interference protection ratios presently used for ATSC operations would provide adequate protection from interference from lower 700 MHz band operations to existing NTSC and ATSC operations on TV Channel 51.

If these emission limitations are adopted for fixed and mobile transmissions in the lower 700 MHz band, the D/U ratios specified for "DTV into DTV" and "DTV into Analog" in Table 5A of OET Bulletin No. 69 might be applied to minimize the potential for interference to existing operations on Channel 51. Licensees in the lowest portion of the lower 700 MHz band (*i.e.*, operations which

include any portion of the band 698–704 MHz, formerly TV Channel 52) could then submit interference analyses using protocols similar to those found in OET Bulletin No. 69. Given the proposed ERP limit of 1 kW for most operations, we do not believe that interference protection requirements need be imposed for other than co-channel and adjacent-channel operations.

Interference to Existing Operations on TV Channel 52

Because little is known about the transmission technologies to be used in the lower 700 MHz band, it is difficult to provide a specific recommendation for interference protection of co-channel NTSC and ATSC operations. As with the adjacent-channel case, discussed above, some assurance of protection of existing television broadcast operations could be afforded by developing an interference protection protocol similar to OET-69. Because the transmission systems to be employed are expected to be digital and therefore noise-like, we support the FCC's suggestion that the same protection requirement (40 dB D/U) be used in the lower 700 MHz band that was codified to protect NTSC users of the upper 700 MHz band. We also support the FCC's suggestion that a D/U ratio of 17 dB be used to protect co-channel DTV users. Since new services in the lower 700 MHz band may not conform to the 6 MHz channel definitions contained in Part 73, these protection requirements should be applied to users of any portion of the frequency band containing the affected TV channel.

/s/ Robert D. Weller

Robert D. Weller, P.E.

May 14, 2001